

Industrial Waste and Water Pollution Control

Ordinance Amendments

(last amended May 9, 2006)



Ordinance Amendments

- Separate and amend Backflow Chapter requirements from the Industrial Waste and Water Pollution Control Chapter, creating a new ordinance titled "Backflow Prevention"

Programs Affected within Ordinances Amended

Backflow Prevention Program performs inspections of facilities water usage to insure adequate protection from the backflow of foreign liquids, gases, or substances into the City's drinking water supply. The program:

- Tracks testing of assemblies with backflow test manifest
- Investigates and inspects potential backflow issues
- Conducts follow-up on delinquent backflow testing



Backflow Prevention Ordinance Changes

- Remove from Industrial Waste and Water Pollution Control Ordinance, and place as an individual Backflow Prevention Ordinance
- Recover cost of Backflow Program
- Specify tester responsibilities
- Clarification
 - definitions & requirements



Proposed New Fees

Description	Current Fee	Calculated Cost	Proposed Fee
* Annual Backflow Assembly Registration	0.00	39.28	39.00
Annual Backflow Tester Registration	0.00	27.43	27.00

* Annual backflow assembly charges will only apply to high hazard assemblies

Other Cities Cost Recovery

City	Tester Fee	Assembly Fee
Arlington	\$27	\$39.00
Plano	\$100	\$25.00 (per test form)
Irving	\$100 (proposed)	\$25.00 (per test form)
Grand Prairie	\$125	\$25.00
Southlake	\$100	\$0.75 (per test form)
Mansfield	\$100	None (currently)

Tester Responsibilities

After notice and hearing, the Regulatory Authority may revoke a registration if the Regulatory Authority determines that the tester:



...has on three or more times in a calendar year failed to return completed test forms to the Regulatory Authority within the time period required by this Chapter.

Why is this important?

Clarification - Definitions & Requirements

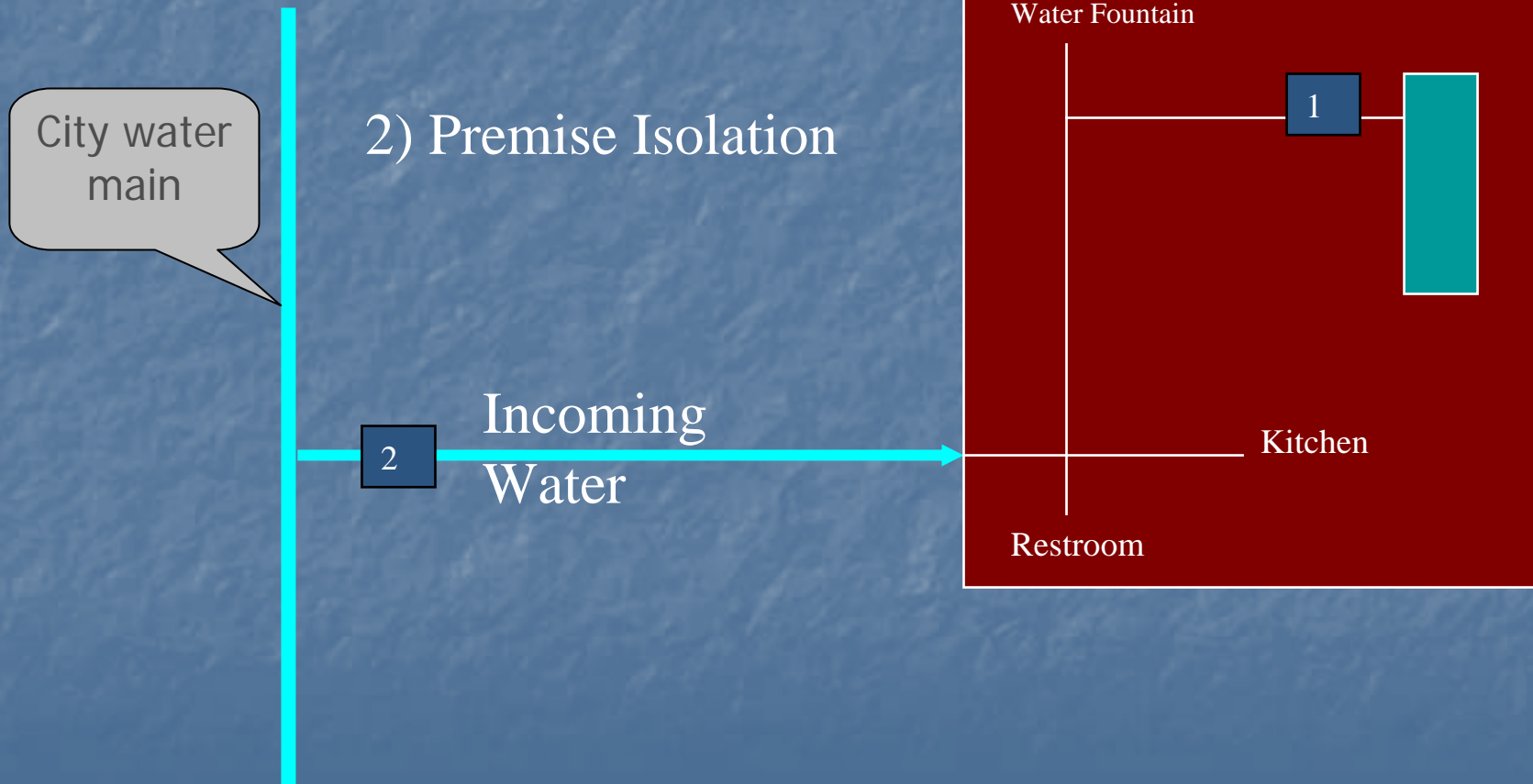
Definitions are listed for already present requirements. They are presented for clarification.

Requirements for the use of a backflow prevention assembly at the service connection shall be considered as additional backflow protection and shall not negate the use of backflow protection on internal hazards as outlined and enforced by the Plumbing Code.

Points of Protection

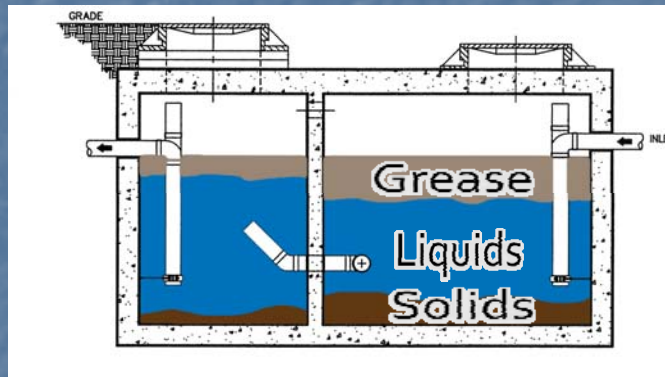
1) In-Plant Protection

2) Premise Isolation



Programs Affected within Ordinances Amended continued...

Liquid Waste Program performs inspections and sampling of solids and grease generating facilities such as food service establishments and car washes. These practices are implemented to reduce or eliminate sanitary sewer overflows (SSO).



How A Sewer Blockage Affects the Sewer System

Sewer Blockage Formation



The start of a blocked pipe begins when grease and solids collect on the top and sides of the pipe interior.



The build-up increases over time when grease and other debris are washed down the drain.



Excessive accumulation will restrict the flow of wastewater and can result in a sanitary sewer overflow.

#1

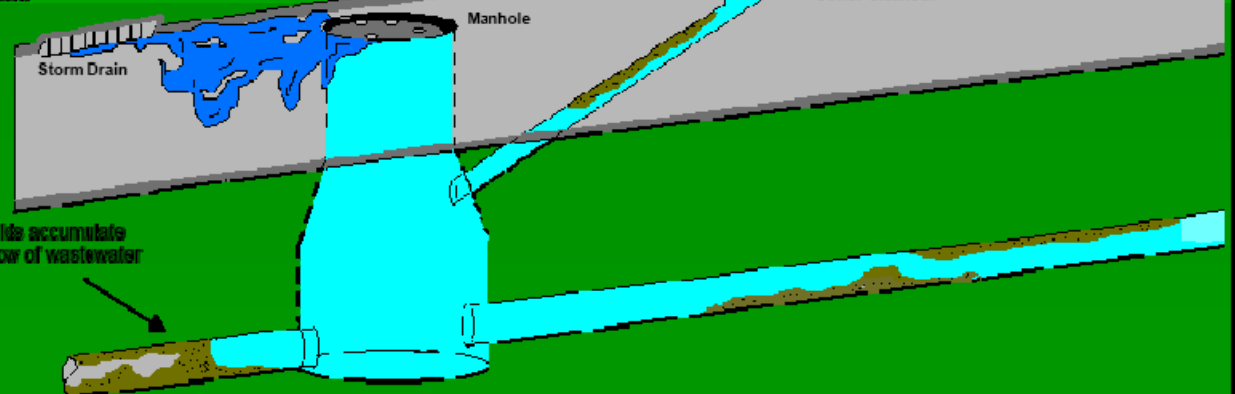
Grease and Solids accumulate and block the flow of wastewater

#3

Sanitary Sewer Overflows occur and expose untreated wastewater to humans, animals, and the environment

#2

Wastewater will back up in manholes, sewer cleanouts, and even home plumbing



Programs Affected within Ordinances Amended continued...

Liquid Waste Program :

- Tracks non-hazardous waste removal from grease traps or interceptors, portable chemical toilets, and sand traps
- Samples facilities for pollutants
- Investigates and conducts follow-up inspections on sanitary sewer overflows
- Permits and inspects non-hazardous waste haulers as a means of verifying where grease, solids and septage are disposed
- Reviews building plans to size interceptors (grease and sand traps) based on facility flow

Liquid Waste Ordinance Changes

- Interceptor Design
 - Structural design from Water Environment Research Foundation (WERF) study
- Interceptor Sizing
 - Incorporated International Plumbing Code - Drain Fixture Units (DFU)
- Clarification
 - Requirements, definitions

Interceptor Design

WERF study recommended a method to distribute the interceptor's influent flow to prevent short-circuiting.

Velocity, m/s

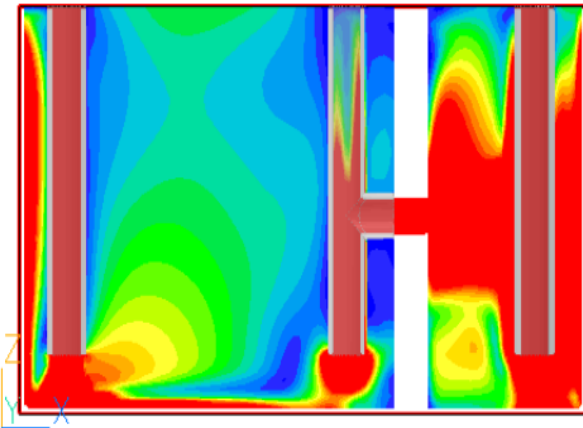
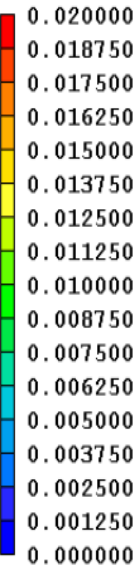
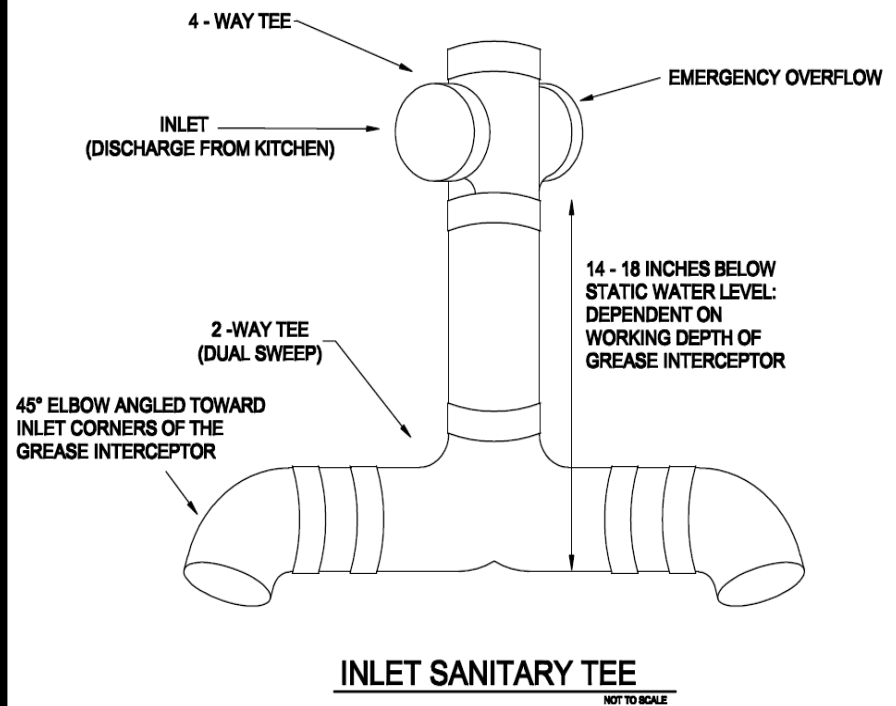
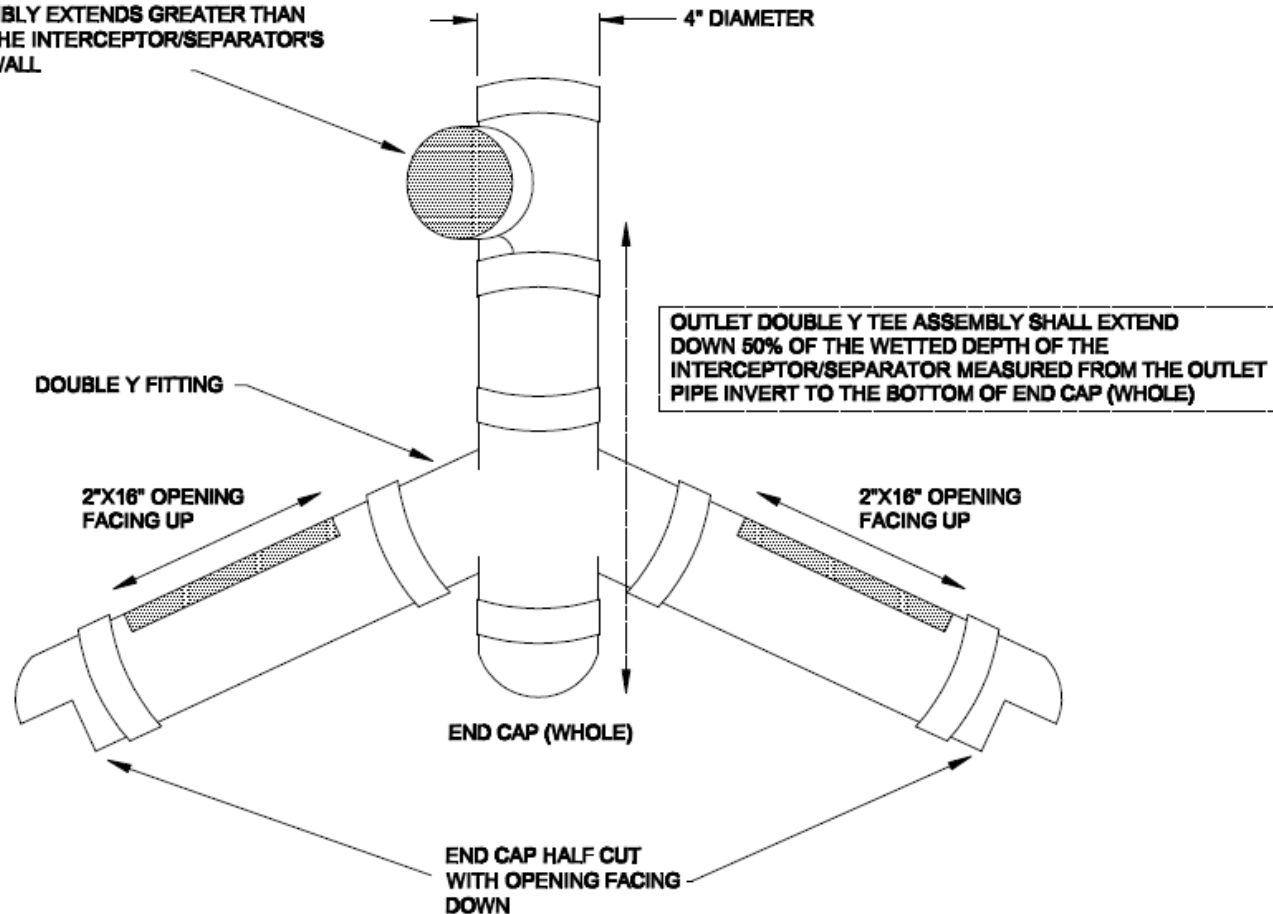


Figure 5-18. Velocity Contours Along the Center of the Standard 15gpm Simulation.



Proposed Outlet Tee Configuration

SUPPORT HANGER REQUIRED IF OUTLET TEE ASSEMBLY EXTENDS GREATER THAN 12" FROM THE INTERCEPTOR/SEPARATOR'S INTERIOR WALL

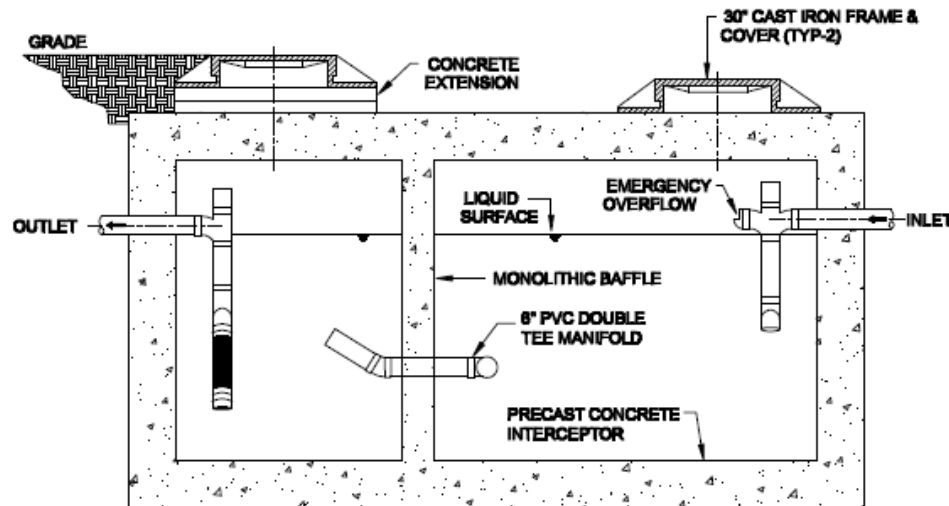
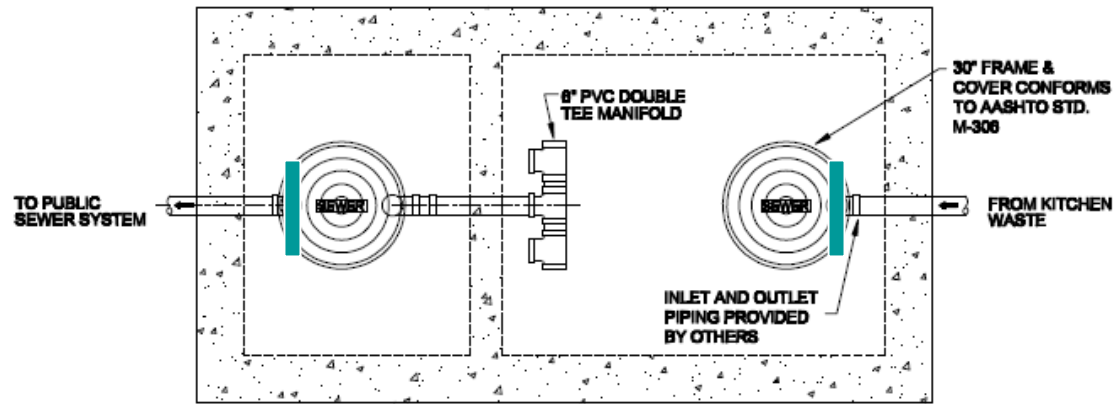


OUTLET SANITARY TEE FOR USE IN ALL GREASE INTERCEPTOR AND OIL/WATER SEPARATORS.

OUTLET SANITARY TEE

NOT TO SCALE

Proposed Baffle Configuration



Interceptor Sizing - Current

- Size based on size of fixture.
- Does not account for fixture type.
- Sizing formula:
 - $\text{Total potential flow (GPM)} \times \text{RT (12 min.)} \times .6$
(discount) = gallon capacity

Interceptor Sizing - Proposed

- Calculates size based on drain fixture units (DFU), that are derived from the International Plumbing Code.
- DFUs determined by fixture type and typical size.
- Sizing formula:
 - $\text{Total DFUs} \times 7.5 \text{ gpm} \times \text{RT (12 min.)} \times .6 \text{ (discount)} = \text{gallon capacity}$

Sizing Scenarios

Scenario 1		Minimum Sizing	
Fixture Description	Qty.	Current Calculation	Proposed Calculation
2" Hand Sink	1	2	2
3" 3C Sink	1	3	4
4" Mop Sink	1	4	3
		9	9
Minimum Trap Size:		486	486
		(500)	(500)
Comments			
Calculates to the same minimum size. This will keep the minimum grease interceptor size at 500 gallons.			

Scenario 2		Typical Application	
Fixture Description	Qty.	Current Calculation	Proposed Calculation
2" Hand Sink	3	6	6
3" 3C Sink	1	3	4
4" Floor/Mop Sink	1	4	3
4" Floor Drain	3	12	6
		25	19
Minimum Trap Size:		1350	1026
		(1500)	(1500)
Comments			
Both formulas will still result in a 1500 gallon interceptor. However, the interceptor will potentially receive less flow, and the interceptor won't be "maxed out."			

Scenario 3		Many Floor Drains	
Fixture Description	Qty.	Current Calculation	Proposed Calculation
2" Hand Sink	3	6	6
3" 3C Sink	1	3	4
4" Floor/Mop Sink	1	4	3
4" Floor Drain	9	36	18
		49	31
Minimum Trap Size:		2646	1674
		(3000)	(2000)
Comments			
More substantial decrease in minimum size. Proposed calculation will result in a 2000 gallon interceptor vs. a 3000 gallon interceptor.			

Scenario 4		High Volume with Dishwasher, Grinder	
Fixture Description	Qty.	Current Calculation	Proposed Calculation
2" Hand Sink	4	8	8
3" 3C Sink	2	6	8
4" Floor/Mop Sink	2	8	6
4" Floor Drain	10	40	27
2" Dishwasher	1	2	6
3" Garbage Grinder	1	3	4
		67	59
Minimum Trap Size:		3618	3186
		(4000)	(3500)
Comments			
Decrease in minimum size. Proposed calculation will result in a 3500 gallon interceptor vs. a 4000 gallon interceptor.			

Clarification - Definitions & Requirements

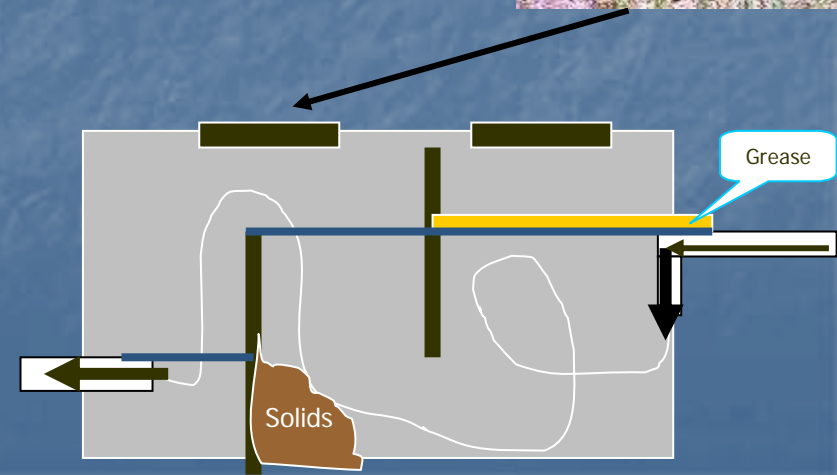
Definitions are listed for already present requirements. They are presented for clarification (TPDES, manhole, overflow).

Requirements when deemed necessary by the Authority for the public health, safety and general welfare, the Authority may:

- abate an overflow
- recover costs from the User who caused, permitted, or otherwise allowed the overflow to occur

Requirements continued...

- Removal of accumulated waste in the interceptor when fifty (50) percent or more of the wetted height of the interceptor, contains floating materials, sediment, or oil and grease.



Questions??

Please call 817-459-5902